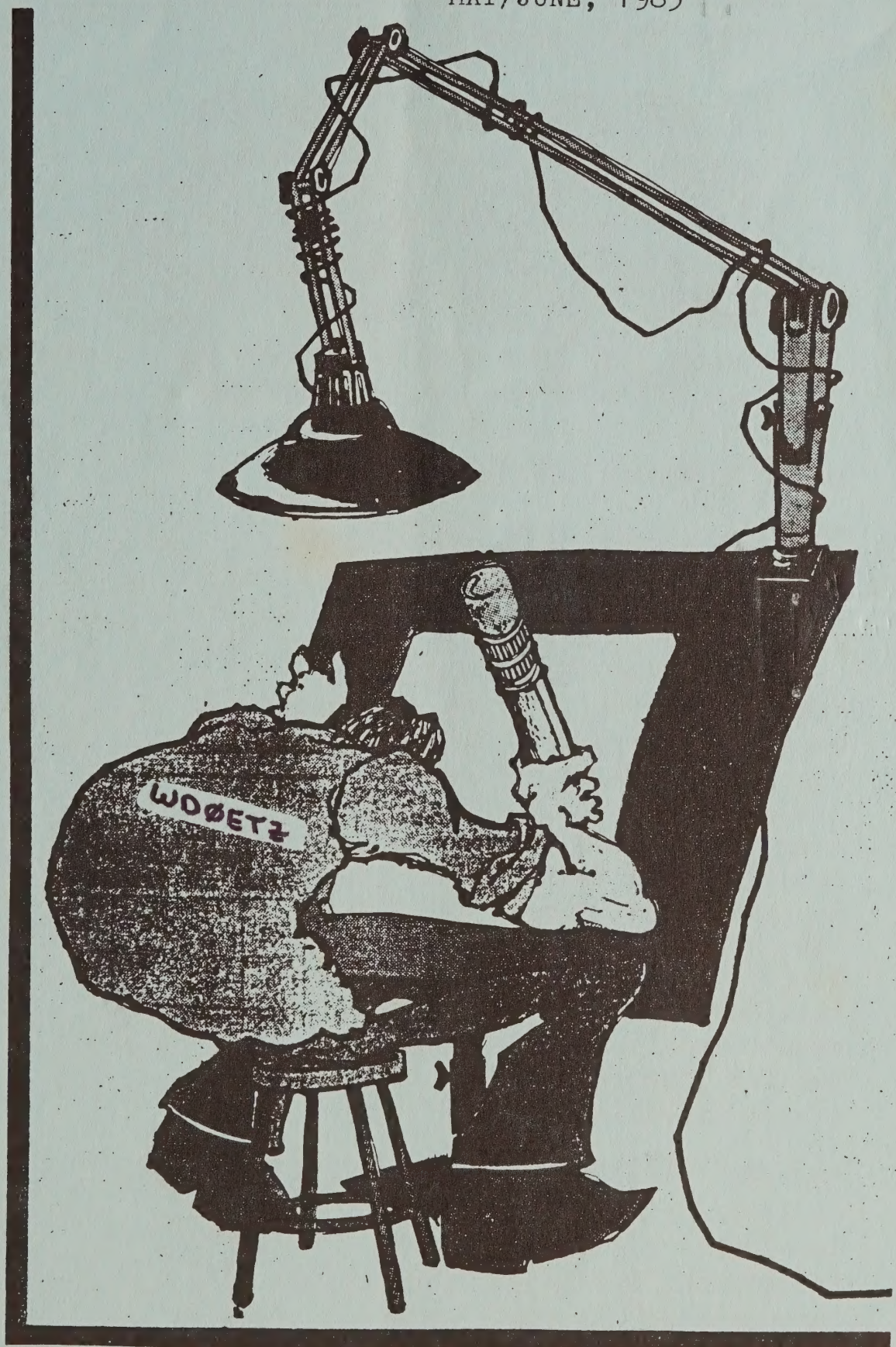
SLAPR PROTOCOL
VOLUME 2, NUMBER 3
MAY/JUNE, 1983

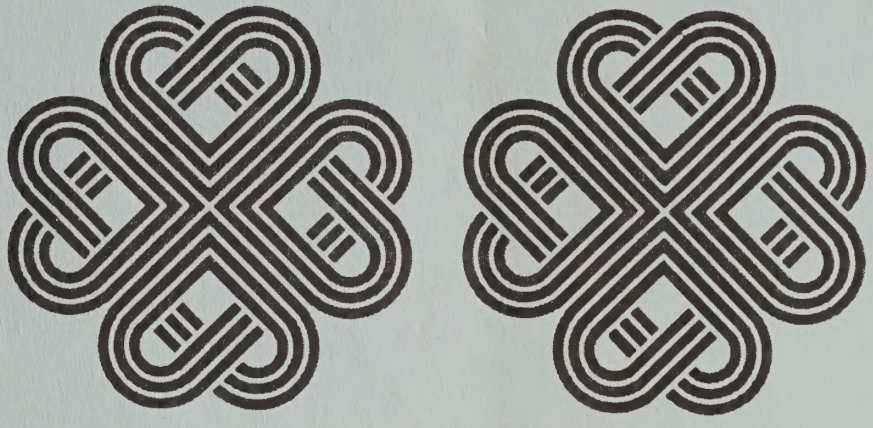
FLAG
TOCALL
FMCALL
CTL
PID
INFO
FCS
FLAG



WDØETZ DESIGNS DAPR

	CONTROL	

identifies the purpose of the packet



WORLD COMMUNICATION YEAR - 1983

"Let us imagine for a minute that all communication networks suddenly stopped functioning all over the globe. No mail, telephone, television, radio, telex, and other services worked much less advanced technologies such as satallites and digital transmissions. Newspaper reports would be delayed several months, shipwrecks would increase, civil aviation would practically cease, commerce would experience great difficulties, public administration would be seriously impaired, and isolation of people would prevail. Simply stated, nearly all economic, social cultural and political activites would greatly diminish. Postal and telecommunications systems have developed rapidly and and we have become so accustomed to them that we would abruptly realize their usefulness only the moment they became unavailable.

"On the other hand, let us imagine that all countries in the world could benefit from a well developed communication structure, perfectly integrated, harmonized and capable of satisfying the needs of all its customers. In this case it would be possicle to assure, or at least greatly increase, the development of countries and the benecicial exchange of ideas, knowledge and

merchandise. The General Assembly of the United Nations has proclaimed 1983 as World Communications Year (WCY'83) and has called upon all countries to establish National Committees. The aim is to stimulate involvement of all parties interested in communication: radio, television, press, aviation, transport, education, agriculture, health, postal, industry, commerce, and meterological services. The Committees were also asked to prepare, coordinate, and implement special activities in order to meet its purpose: to accelerate the national development objectives within the framework of worldwide communications structures." CETTEM NEWSLETTER No 6

How appropriate that it is 1983 in which packet radio really gets off the ground in a big way. In packet there are really great development possibilities for the third world as well as the developed world. For the first time, packet radio gives developing countries the possibility of getting into the flow of information and ideas without it costing them far beyone their capabilities as a nationa. If you have not had your board of the air for a while (there must be ten of you who haven't shown on my screen lately) here is another reason to get out the keyboard again and pound away. If you have already worn out all of the selfish personal reasons for getting on packet, now give a thought to the others who, unknowingly are waiting on you to help put in place a system which will allow them to get into the flow of things in the world a little faster. This is your chance to help change the world, not just sit there and watch the changes take place, make it happen.

disconnect W9OFZ

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A thirty-minute video tape program outlining the history of the computer, and the future of amateur radio with computers, COMPUTERS & AMATEUR RADIO, will be the program on May 24 at the SLAPR meeting. See you at 7:30 at Deaconess!

PACKET ON BOARD

Unhappy news has come indicating that PHASE IIIB is again delayed. You will remember that it was scheduled for a June 3 launch. The grape vine has it that there is no way to meet that schedule.

The story is that the AMSAT crew went French Guiana at the end of April to get things in order for the launch. They were to have stayed there until the craft had been mated to the launch vehicle and then "babysit" it until flight day.

I understand that things were still in sufficient disarray that the multi-national launc crew from AMSAT returned home. This gives you a little more time to get antennas and equipment ready for operation on the Special Service Channels (SSC).

The SSC are outlined in a very fine article by K1HTV, Richard Zwirko, and W40WA, Bob Ruedisueli, in the May issue of QST (pp. 48-51). Be sure to take a look at their suggestions.

AMICON, the AMSAT International Computer Network is listed as just one of the many special service users of Phase III B. The authors remind us that, "Some of the possibilities here include establishing two-way computer links, computer networks, packet radio gateways for long-haul traffic, and even digitized voice and video."p 48

There is still time to get ideas in to the designers of the systems that will help us to communicate via packet radio. Bob and Richard remind us that things are not yet set in stone. In fact they are looking for ideas. If you have a thought, get it to AMSAT (P O Box 27, Washington, DC 20044) so it can become a part of the planning that is still going on.

Parameters that are already in mind include: "The SSCs must be arranged to allow maximum use of the available passband while providing as many options as possible. The SSCs will be located at each passband dge. Initially, only four

channels are being considered: two at the high end and two at the low end.

"The upper channels (H1 and H2) would be used for voice transmission, while the lower channels (L1 and L2) would be strictly for CW and digital data." pp 48-49

L1 would be a 5kHz segment closest to the lower band edge. This is the SSC that is being suggested for ASCII type transmissions. L2, which would be another 5kHz segment slightly higher, could be reserved for CW and RTTY. An excellent band plan is shown in Fig. 1. If you take a good look at it you will note that the packet SSC is suggested to be 15 kHz inside the general beacon at the bottom of the downlink spectrum.

"Since each of these 5-kHz segments can accomodate several individual slow speed channels, some thought must be given to how the segments could be compartmentalized. The L1 segment would be used primarily for experimental data services such as those being pursued by AMICON. Several AMICON groups - those in San Francisco, Washington, DC, New Jersey, Ottawa, Vancouver and Sweden, for instance - could be linked by a packet network that uses the L1 segment. L1 may also be used on occasion for science programs."49

Since it is suggested that L1 will be mostly exchange of digital data, especially of the packet variety, and since it is understood that these communications will be world-wide, the authors are calling for the development of a set of standards that can be the basis for communications between packeteers from all corners of the globe. Perhaps Richard and Bob are not aware of the work that has been done in this area and the setting up of the AX.25. Or perhaps there has not yet been a good enough job of communicating its agreement in certain parts of the globe. Anyway, this and other problems are to be addressed through SSC Program Coordinators. KA6M, Hank Magnuski, has that honor for the 2nd Region. Contact Hank with ideas and questions. Come on folks, here is an opportunity to tune up for PACSAT.

73 and disconnect de W90FZ

	GATEWAY	

station to access long distance communications

BULLETIN BOARD QUERY

Dear Pete,...

Sorry to see Bill Reed is moving. Hope you will be able to maintain the momentum. I'm sure your leadership will sufice, Pete. Would you ask Bill, since I don't know him, if he will share his bulletin board software AND instalation/ operation hints peculiar to Packet operation. (I'm sure he will. We look forward to its presentation in SLAPR PROTOCOL soon. ed.) I'm familiar with his Software display as printed on front of the PROTOCOL - it is the RCPM code that exists on my favorite local board - and I have that code already. What I'd like is the benefit of his experience and any required patches. I'm running an S-100/Z80A (soon a Z80B)/56K CPM system. Should be no hardware problems.

METEOR SCATTER AND PACKET

Finally, the meteor scatter idea...Last week I saw a meteor scatter unit in operation. The link was set up temporarily as a demonstration from Fort Bragg, NC to the Washington, D. C. area. The temporary station was running 300 W. out and a 4 element beam on 46 MHz or so. Antenna aiming was not critical in the least. They just set it up, turned it on and it worked. The throughput averaging 110 bauds, but with different modems etc. that could be increased.

One big factor is 6 meter TVI!...You are looking at $1000 or better for a good setup - 500 W. to a KW, stable exciter, and a beam. Maybe less power would work - we could try a 150 W output amp. and a bigger beam. Might work.

I'm going to try to get a small bibliography on the subject through military sources. Dan Morrison is also interested somewhat, but they (Tucson) are looking at 50 kb up. This might have good emergency potential though.

73,

Gwyn Reedy, W1BEL

P.S. I just bought a PAIR of 8 el beams for 6!

METEOR BURST BIBLIOGRAPHY

Recent Advances in Meteor Burst Communications, by Robert L. Richmond, August and September, 82 issues of Military Electronic/Countermeasures Magazine.

Meteor Bursts Could Keep Post-Attack Communications Open, by Irvin Gottlieb, November 81 issue of Defense Electronics.

Bartholomew, P. J. and Voght, I. M.,"Comet-a New Meteor Burst System Incorporating ARQ and Diversity Reception." IEEE Transactions of Communications Technology, April 68.

Oetting,J. D., "An Analysis of Meteor Burst Communications for Military Applications," IEEE Transactions on Communications, September 1980.

Gray, K. G., "Meteor Burst Communications," Signal Magazine, p. 125-134, June 1982.

Gwyn says he would be glad to correspond with anyone who has an interest in the area. You can write to him at

W1BEL
Mr. Gwyn Reedy
812 Childes Loop
Brandon, FL 33511

(Thanks Gwyn. A good start for a Bibliography.)

GEOSTAR (W5YI REPORT)

An article in USA Today predicts that within five years it will be possible to carry a portable device which will display short messages from anywhere in the USA, no matter where you are, and send messages to anyone else with the same device. You'll also be able to call police and rescue teams and tell them where you are (within a few feet), no matter where you're located. Geostar Corp. of Princeton, NJ, has applied to the FCC for permission to launch three satellites and a space in 1987 to launch such a service. The portable device is described as a transciever the size of an inch-thick checkbook with a small keyboard and liquid crystal display screen. The device would convert messages to digital radio signals which would be transmitted to the sattellites. The sattellites would relay the message to Geostar's computer located in the Midwest. The computer would locate you through a locator signal broadcast periodically by your device and tracked by the three sattellites. The computer would send the message to your divice which could store it in memory and beep to let you know it had received a message. You could then read it, save it, reply to it, etc.

Geostar would be able to pinpoint your location "down to which side of the street you're on," according to Gerald O'Neill, professor of physics at Princeton University. O'Neill has patented the design for the system and founded Geostar with a Colorado businessman and two other scientists, one of them a Nobel prize winner. The receivers should cost about $450 when mass-produced. Messages would cost about $0.40 each with emergency messages costing more in an effort to attempt to reduce false alarms. Geostar has raised $500,000 from a few investors to help get the plan approved and plans to raise $485 million in the next five years through private venture capital stock offerings. The Geostar system could accomodate more than 6 million users with the narrow frequency band planned. Geostar "uses

radio spectrum very effeciently. You can send a digital message in a few billionths of a second, so nobody ties up the system," O'Neill says.

from HamNet*SYSOP Scott W3VS 15/Apr/83

= =

NEW IN TOWN, EH? (or welcome RATT'S NEST)

Here at the SLAPR PROTOCOL editorial desk I have just received a copy of Vol 1, Nr 1, Jan 83 issue of RATT'S NEST. "RATT'S NEST?", you say! Yep, that's right. Since it is Vol 1 and Nr 1, I too assume that it is new in the bibliography. Ah, but the SUPER-RATT about which it is written is certainly not knew. For those of you who come to Packet Radio by some other mode than RTTY, let me mention that SUPER RATT, from my short experience is a great little BBS system presently used by some -- RBBS systems around the US. It will run ASCII as well as baudot at speeds from 40 to 300 baud. Anyway, back to the RATT'S NEST. RS is the Super Ratt user's newsletter. We thank Phillip Mische of Universal Software Systems, Inc. at 9 Shields Lane in Ridgefield, CT 06877 for sending along issue Nr 1. We hope Phil likes SLAPR PROTOCOL and will continue the exchange.

For your editor, the most interesting part of this issue of the RATT'S NEST is the offer to publish for software authors. Ok folks, where is your version of the PBBS system? Let us all benefit from your work. So what if we only have 20 BETA sites nationwide today? When the kits come out this summer, we'll need many more. Get out your pencils (oops, computers) and get to work. Who knows, you may be Universal Software Systems' newest author. More information? See 73 (12/82, p 140).

disconnect, W90FZ

PACKET RADIO - SOFTWARE APPROACH

You all remember Bob Richardson's surprise in QST last February. Those of us who attended the 2nd ARRL Amateur Radio Computer Networking Conference had the privilege of meeting Bob. He was kind enough to send his program, on disk, for our use and study. WAOKGU has been in correspondence with Bob and recently received the following:

Dear Tom,...

1. A port zero encoder/decoder schematic is included in our new book 'Packet Radio - Software Approach' that will be published next month. Parts cost is only a few dollars.

2. The Model TRS-80's RS-232 adaptor connector inside the expansion-interface is notoriously intermittent. We DO NOT us it nor recommend it to anyone but our worst enemies. The Model III is ok, though. RS-232 takes TIME, so it is both foolish and wasteful. With the software approach it is totally unnecessary and would accomplish nothing.

3. Vol. 2 of 'Packet Radio - Software Approach' MAY incorporate the AX.25 protocol. The TAPR 'should' (is supposed to) work with the VADCG protocol which we use in Volume 1.

You certainly have the author's and copyright owner's (me) approval to copy and disseminate my packet program as widely as you wish...You will do us a great service...The book covering it (the program) will be available around the end of May '83 for $22 post paid.

Vy 73,

Robert M. Richardson, W4UCH

Richcraft Engineering Ltd.
1 Wahmeda Industrial Park
Drawer 1065
Chautauqua, NY 14722

1983 SLAPR ROSTER CONTINUED

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BELLEVILLE IL 62221
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W1BEL 039 1283
GWYN REEDY
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BRANDON FL 33511
813-689-3355

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WARRENVILLE IL 60555
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WDOARL 041 1283
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408 MAIN
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816-882-6405

WB9MCJ 042 1283
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KCOUU 044 1283
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WDOEEL 045 1283
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1265 NW 7TH ST
BOCA RATON FL 33432
305-395-4575

N4CI 046 1283
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5276 EAST SHORE DR
CONVERS GA 30208
404-922-7088

SLAPR ROSTER
as of 5/9/83

The Dayton Hamfest provided excellent exposure to Packet Radio in general and SLAPR in specific. Seven of the above new members are as a direct result of the Dayton booth and the excellent work of the Packet team. Thanks to all who helped.

SLAPR

St. Louis Area
Packet Radio Club

CERTIFICATE NBR. XX

DATE _____

THIS CERTIFIES
THAT
SAØMPLE

CALL _____ OF

ADDRESS _____

HAVING DEMONSTRATED INTEREST
IN *Packet Radio* IS DULY
ELECTED A MEMBER IN THE
St. Louis Area Packet Radio Club

_____
PRESIDENT

_____
SECRETARY

_____
TREASURER

	GATEWAY	

THE SOUTH MAY RISE AGAIN ATLANTA ON PACKET?

Pete,

Just wanted to drop you a note to say how much I enjoyed the Packet Radio Forum at Dayton. Sorry I was not more help. But with the rain I did not spend a lot of time at the fest. (spent more time on busses)

I would like to participate in the next Beta Test. And would gladly coordinate activities here near Atlanta. My plans now are to upgrade my station and have purchased an FT 980 CAT. By the end of the year I hope to have a Tucson board running and have several others in our club interested. Also by that time I hope we will have satellite capabilities and will be able to participate in linking studies?? through the B mode transponder.

I joined TAPR and SLAPR at Dayton. However, I can't seem to find the TAPR address. Could you forward this letter to Lyle. I enclose a $15.00 check for a Beta Test Handbook.

Eric, N4CI

In other correspondence Eric says, "...I would like to get the group started on a LAN in this area with the Vic-20 computer. The club has a 2-meter voice repeater and also is involved in a RTTY repeater on 2-meters. I have an Apple II, a Sym and several Vics. Is there any source listing for the TNC protocol in 6502 that I might modify for the Vic? If not, is the source listing available for the Z-80 that I might modify for 6502? Are there any other clubs in the Atlanta area who are participating in a coordinated project in packet radio? Are there any speakers available to address our club meeting?" (Watch it Pete! Flying to Atlanta?) N4CI

	FLAG

identifies the beginning or the end of a packet

I wish I had a nickle for every time someone has mentioned to me that "Heh Pete, how come there is nobody on the Packet network to talk to?" Well gang I personally can't solve the problem but I can suggest a solution. The power of this system lies in ALL OF US keeping our systems up and runing 24 hrs a day, 7 days a week, if possible. Yes I'm as gulity as the next guy for not doing this, but without everyone being avalable and "on-line" the network does not exist. If you just turn your system on, try to connect to a few folks, get no reply,turn it off, unhappy noone is around we have solved nothing! Lots of folks are doing this with the same results. If, on the other hand, we religeously leave our systems running, this will attract more activity on the network. Without it we will remain static.

The second most frequently ask question I recieve is "What are we going to do about a Bulletin Board System (BBS) after Bill leaves?" Well again that will depend on all of us pitching in to build a new and maybe better system. Bill will be more than happy to give us his software but we have to do some leg work. Several folks have come forward to offer there help in putting a new system together. Hopefully with their expertise we will be up and running with a new computer on packet shortly. Again to beat a dead horse, it will take ALL OF US to do it.

For those of you who missed Dayton, you missed a good one. The weather was lousy. The flea market washed away. But the Packet booth was a huge success. SLAPR, with TAPR, MVFMA, and AMRAD sponsored the table. Bill, WDØETZ, took the SLAPR BBS and had it running. Boy did it draw in the crowds. Add to that the fact that we had the largest room for our Friday afternoon forum and we kept a packed audience spellbound

(ok interested) for over 90 minutes and you have the formula for success. High praise goes out to Bob Neben of the Miami Valley FM Association for his work in making the talk such a huge success. Thanks Bob. Lets do it again next year!

While driving out to Dayton, Bill and I were concerned whether or not anyone would realy take note of this "Packet Stuff" at Dayton. Well not only was the booth and the forum jammed. Both Heathkit and AEA stopped by. They want to market the TNC Board! Boy was that good for the old ego.....The chap from Heathkit even complimented us on our excellent manual. Can't get a better recomendation than that! All in all, I think everone agreed, the trip was well worth while.

One of the big things being pushed by manufacturers at the show was AMTOR. For those not familiar with this mode, it is similar in some ways to Packet. But its use is aimed at the HF bands. Several of us are in the proccess of getting on AMTOR. Our thought is to use it as a quick way to experiment with linking between different packet networks around the country. Bill, in fact, is thinking about hooking AMTOR to the packet BBS in Dallas so St Louis can still stay in touch. More on this later.

Beta testing is now wrapping up. Those of you who are aprticipating, please mail in your questionaires to TAPR. This is your chance to sound off about your likes and dislikes. This summer the kits will become avaliable to the general ham population. Your inputs will ease the average guys intro to Packet. We want it to be a pleasant experience.

Lastly, an update on Den Connors. The founder and past president of TAPR is now a resident of Mass. Now working for Wang Laboratories, I'm sure his same enthusiasm which started TAPR on its quick road to "stardom" will hit the Northeast with a vengence. Look out up there, Packet fever is about to hit. GOOD LUCK, DEN!

disconnect, WB9FLW

SLAPR PROTOCOL
ST. LOUIS AREA PACKET RADIO CLUB
1309 GLOUCESTER DR.
EDWARDSVILLE, IL 62025

GLEN CARBON, IL
MAY 19
1983
62034

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* *
* WDOETZ *
* DESERVES *
* A PIZZA BASH *
* *
****

KA6M
HANK MAGNUSKI
311 STANFORD AVE
MENLO PARK, CA 94025

FIRST CLASS

NEXT SLAPR MEETING
COMPUTERS IN THE SHACK and
A PIZZA BASH HONORING WDOETZ
7:30 PM ON MAY 23, 1983
GRAND TETON ROOM, 7TH FLOOR
DEACONESS HOSPITAL
6150 OAKLAND, 40 AT HAMPTON
ACROSS FROM FOREST PARK
ST. LOUIS, MO